



Nonattainment Designations in Wisconsin

Small Business Environmental Council

March 31, 2009



Outline

- ◆ Pollutants of Concern
- ◆ Health and Environmental Effects
- ◆ Ozone & PM2.5
 - ◆ NAAQS
 - ◆ Nonattainment Area Designations
 - ◆ Current Air Quality



What is ozone?

- ◆ Reactive Form of Oxygen
- ◆ Good Ozone and Bad Ozone
- ◆ $\text{VOC} + \text{NO}_x + \text{Sunlight} = \text{Ozone}$



What are fine-particles?

- ◆ Solid or liquid particles in the atmosphere with a diameter less than 2.5 microns.
 - ◆ Ammonium Sulfate, Ammonium Nitrate, Elemental Carbon, Organic Carbon, Crustal Material
- ◆ PM2.5 Formation
 - ◆ Atmospheric Reactions of H_2SO_4 and HNO_3 with Ammonia to Form Ammonium Sulfate and Ammonium Nitrate
 - ◆ Elemental Carbon and Crustal Material Emitted Directly
 - ◆ Organic Carbon Formed by Both Atmospheric Reactions and Direct Emissions



National Ambient Air Quality Standards - Ozone

- ◆ 1997 Standard [Primary and Secondary]
 - ◆ 0.08 ppm [average of 4th highest concentration for 3 consecutive years]
- ◆ 2008 Standard [Primary and Secondary]
 - ◆ 0.075 ppm [average of 4th highest concentration for 3 consecutive years]



National Ambient Air Quality Standards – Particulate Matter

- ◆ Fine Particles (PM_{2.5}) [Primary and Secondary]
 - ◆ Annual Standard – 15 $\mu\text{g}/\text{m}^3$
 - ◆ 24-Hour – 35 $\mu\text{g}/\text{m}^3$ [average of 98th percentile concentration for 3 consecutive years]
- ◆ Coarse Particles (PM₁₀) [Primary and Secondary]
 - ◆ 24-Hour – 150 $\mu\text{g}/\text{m}^3$ [average of 99th percentile concentration for 3 consecutive years]
- ◆ Standards Finalized – September 2006
- ◆ Standard Remanded to EPA – March 2009

Health Effects

Ozone

- ◆ Premature death
- ◆ Decreased lung function
- ◆ Increased asthma attacks
- ◆ Depressed immune system
- ◆ Change in lung structure



Particulate Matter

- ◆ Premature death
- ◆ Decreased lung function
- ◆ Increased asthma attacks and chronic bronchitis
- ◆ Acute respiratory symptoms
- ◆ Respiratory and cardiopulmonary related hospital admissions
- ◆ Increased work and school absences



Welfare Effects (Social, Economic & Environmental)

- ◆ Reduced visibility
- ◆ Reduced crop and forest yields
- ◆ Interference with ecosystems
- ◆ Acidification of lakes and streams
- ◆ Damage to buildings and materials

Isle Royale
National Park,
Michigan



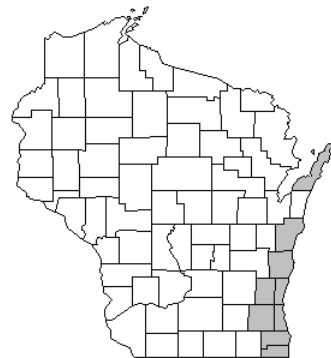
Good Day (dv = 7)

Bad Day (dv = 20)



Ozone Nonattainment and Air Quality Information

Ozone Nonattainment Areas -1997 Standards



1997 Ozone Standard - Redesignation Requests

- ◆ June 2007
 - ◆ Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha
 - ◆ Manitowoc
 - ◆ Kewaunee
- ◆ Subsequent Violations of the Standard
 - ◆ 6 County Milwaukee Area and Manitowoc
- ◆ Kewaunee Redesignated to Attainment



1997 Ozone Standard - Redesignation Requests

- ◆ Summer 2009
 - ◆ Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha
 - ◆ Sheboygan
 - ◆ Manitowoc
 - ◆ Door
- ◆ Need to Address Clean Air Act Deficiencies
 - ◆ VOC and NOx RACT
 - ◆ Attainment Demonstration



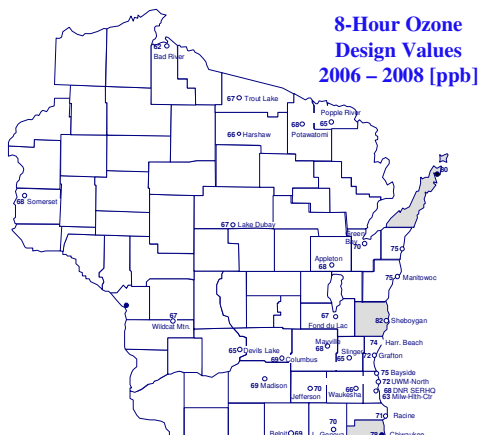
1997 Ozone Standard

- ◆ VOC RACT Deficiencies
 - ◆ CTGs
 - Coating Operations – Flat Wood Paneling; Paper, Film and Foil; Large Appliance; Metal Furniture
 - Printing – Lithographic and Letter Press; Flexible Package
 - Industrial Solvent Cleaning
 - ◆ Inadequate Negative Declarations
 - SOCM – Air Oxidation; Reactor Distillation
 - Industrial Wastewater Treatment
- ◆ NOx RACT Deficiencies
 - ◆ Definition of Potential to Emit



1997 Ozone Standard Schedule

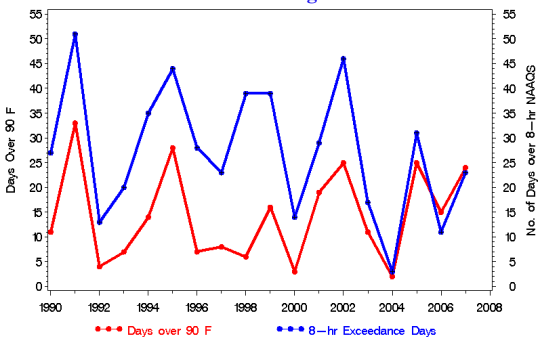
- ◆ NOx RACT and VOC RACT Board Adoption – Spring 2009
- ◆ Redesignation Request [1997 Standard]– Summer 2009
 - ◆ Kenosha, Milwaukee, Racine, Ozaukee, Washington and Waukesha
 - ◆ Sheboygan
 - ◆ Manitowoc
 - ◆ Door
- ◆ Attainment SIP Submittal – Summer 2009



2008 Ozone Standard Schedule

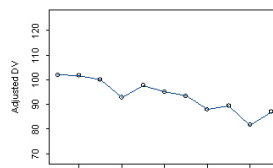
- ◆ Identifying “2008” Nonattainment Areas
 - ◆ Public Meetings – Late-January 2009
 - ◆ Public Hearing –February 9, 2009
 - ◆ Governor’s Recommendation – March 12, 2009
 - No Nonattainment Areas
 - ◆ Final Nonattainment Designations – Spring 2010
- ◆ Attainment SIPs Due – Spring 2013
- ◆ Attainment Dates – Spring 2013 to Spring 2030

Number of Hot Days and 8-hour “Exceedance” Days in 5-State Region

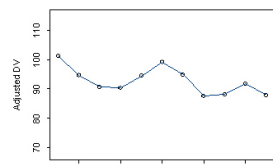


Trends in Meteorological Adjust Design Values

Chiwaukee

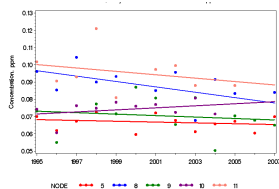


Sheboygan

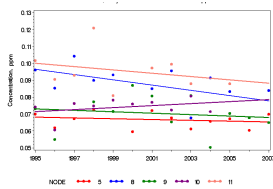


Trends in Ozone CART Nodes

Chiwaukee

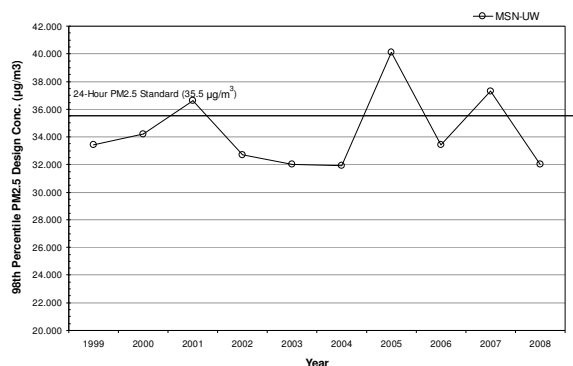


Sheboygan

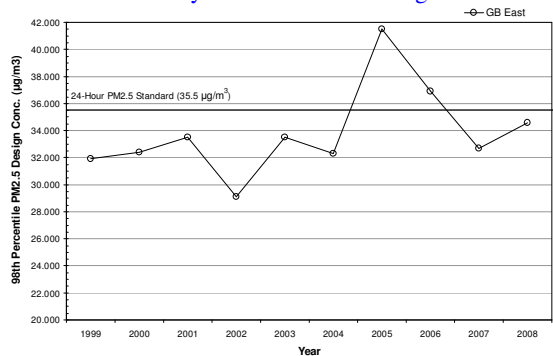


PM2.5 Nonattainment and Air Quality Information

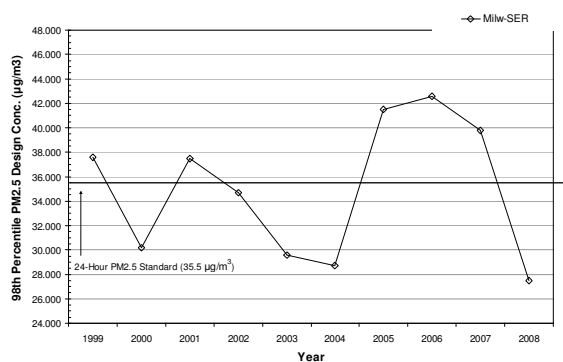
Madison 24-Hour PM2.5 Design Value



Green Bay 24-Hour PM2.5 Design Value



Milwaukee SER 24-Hour PM2.5 Design Value



PM2.5 Nonattainment Schedule

- ◆ Final Designations – December 22, 2008
- ◆ Deadline for Submitting Technical Amendments – February 20, 2009
- ◆ Effective Date for Designations – April 2009?
 - ◆ Delayed due to the change in Administration
- ◆ Attainment SIP Due – April 2012?
- ◆ Attainment Date – April 2014?



◆ Contact Information

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◆ Thanks

◆ Lake Michigan Air Direct Consortium
[LADCO]

– ladco.org

